Knowledge and Awareness on Complications of Hypertension among General Population

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ABSTRACT
Hypertension is one of the common worldwide health issues prevailing among adults. It is prolonged elevation in the blood pressure than the normal range. Since it is an asymptotic and non-communicable disorder, it can't be easily diagnosed. Lifestyle modification plays a vital role in struggling against hypertension. This study is centred towards assessing the awareness of complications of hypertension among adults. A cross-sectional study was conducted among 100 individuals, which include both male and females of age group between 20-50 yrs. A survey is done in an online setting. This study shows that older age group peoples are more prone to hypertension and the knowledge about this disorder is comparatively high among people in the present generation. This study also assesses less attention regarding their lifestyle modification. About 66% of participants answered obesity, family hereditary, and smoking can increase the risk of hypertension. And also significant occurrence and evidence of hypertension are reported in developing countries, 81.3%. This study concludes people are more aware of major risk factors and complications, and they are unaware of minor complications. Education about them is vital to tackle this major issue.

INTRODUCTION
Hypertension is one of the significant disease burdens for a country under non-communicable disease, and are essential causes of mortality and morbidity in India (Anwar et al., 2018). Blood pressure is the strength of blood pushing against the walls of arteries. Blood pressure is measured by both systolic and diastolic number. The usual range of Blood pressure is about 120/80 mm Hg. Hypertension is defined as an elevation of blood pressure in arteries than the normal level. The hypertensive range is between 140/90 mm Hg. It is also called as Arterial Blood Pressure. Hypertension can cause significant complexity in health problems like damage to the brain, kidney (Tadesse and Alemu, 2014) and also causes cardiovascular disease, which can be fatal. Some signs and symptoms of hypertension are headache, nausea, vomiting, double vision, heart palpitations (Gyamfi, 2018).

Many individuals suffer from hypertension, but they are unaware of its risk factors, and they're widespread because it is usually asymptomatic (Seham and l Mezayen, 2015). Hypertension may directly or indirectly lead to the rupture of an aneurysm (Tada, 2014). It may weaken the
Figure 1: This pie chart shows the percentage distribution of responses to age prevalence of hypertension.

Figure 2: This pie chart shows the percentage distribution of responses to the statement that stroke is a major complication of hypertension.

Figure 3: This pie chart shows the percentage distribution of responses to memory retaining capacity of hypertension.

Figure 4: This pie chart shows the percentage distribution of responses to statement that hypertensive patients suffer from renal abnormalities.

Wall of the arteries by increasing the mechanical stress. This causes vascular inflammation and remodelling (Muller, 2004) by the activation of the renin-angiotensin system. Hypertension can be a leading cause of vascular cognitive impairment. Extreme cases in which multi cognitive centres are affected along with the negative impact on daily activities (Iadecola, 2014). As the glomerular filtration rate decreases, it causes the increasing severity of hypertension (Muntner, 2010). Both hypertension and chronic kidney disease complexes the morbidity rate of cardiovascular disease (Gansevoort, 2013). Hypertension induces endothelial dysfunction, and also aggravates the arteriosclerotic function and involves the formation of arteriosclerotic plaque. Hypertension decreases the coronary reverse and increases heart oxygen demand, both correspond to myocardial ischaemia (Escobar, 2002). Hypertensive retinopathy is one of the vascular complications of hypertension. Increase in blood pressure causes failure in the autoregulation of the retinal system (Liebreich, 2007). Not only hypertension accounts for retinopathy, systemic vascular disease, cerebrovascular and cardiovascular disease also associated with retinopathy (Williams, 2004).

The prevalence is rising globally. In the year 2008, prevalence is about 40% among middle-aged people (adults) (Azubuike and Kurmi, 2014). Prevalence may depend on sex ratio also. As age increases, prevalence also increases in male than females. But for 65 years individuals, in which both male and female population has small amounts of prevalence (Ramakrishnan, 2019). The hypertensive outbreak is more prominent in low and middle-income countries (Kaur, 2012). According to the
democratic republic of Congo (DRC), the prevalence of systemic hypertension is recorded to be over 25% (Longo-Mbenza et al., 2008) and also associated death rate for hypertension is about 20% among adults (M’Buyamba-Kabangu et al., 2009).

In the year 1998, awareness among 50-59 aged adults prevalence rate is about 69.4%. But in 2011, the awareness rate was approximately 82.3%. The gradual increase in awareness rate is the outcome of health education programs, regular campaigns, health literacy among people to avoid Premature exposure to disease in general. Individuals having type 1 diabetes are more prevalent to hypertension than the non-diabetic ones (Maahs et al., 2005). The prevalence is contradictory to awareness (i.e., Females are more aware than male) (Mohamed et al., 2018). This study is centred towards analysing the knowledge of complications of hypertension among adults.

MATERIALS AND METHODS

A self- structured, cross-sectional study was conducted among random 100 participants in the age group between above 20 -50. A questionnaire was designed to assess the knowledge among the individuals. Questions include the awareness, risk factors knowledge, age group of prone individuals, solutions for hypertension. Exclusion criteria are participants below age group 20 and above 50. The survey is conducted in the online setting, and so only a homogenous population is involved. The responses and data are collected through a survey planet app. The results are tabulated in the form of pie charts.

RESULTS AND DISCUSSION

In our study, Statistical analysis done based on the data obtained from the survey, which is represented using pie charts. Around 55% of individuals answered that hypertension is seen in above 60 years old peoples, 28% of individuals perceived it to be between 40-60 years, 10 % of individuals felt in between 15-40 years and only 7% of individuals answered below 15 years (Figure 1). 94% of respondents felt stroke is a significant complication of hypertension, and 6% of individuals disagreed to the statement (Figure 2). 55% of individuals felt hypertensive patients have low memory retaining capacity, 37% of individuals thought they have very high memory retaining ability and 9% of individuals thought they have normal memory capacity (Figure 3). 70% of participants agreed that hypertension causes renal abnormalities, and 30% of individuals disagreed with the statement (Figure 4).

Hypertension is one of the world’s common diseases causing increased mortality and disease burden among countries. India is a developing country and like other developing countries. It will undergo a rapid transition. The individuals living in these countries face a significant stress burden and nutrition deficit. This study tries to assess the knowledge, awareness about hypertension and can lifestyle modification be a proper solution. From the survey conducted, it shows that hypertension at age 60yrs is more prevalent. According to Abayneh Girma Demisse et al., states that people 65 yrs that to males are more prone to hypertension (Demisse, 2017).

More than 90% of hypertensive patients are more prevalent to stroke. More than 60% of the patients with ischemic stroke with increased BP within one hour of symptoms onset (Qureshi et al., 2007). Lynn M.J. et al. further states that more than 70 % of hypertension patients have intracranial atherosclerosis (Chimowitz et al., 2005) (Figure 2). It is known that hypertensive patients have only very less memory retaining capability (i.e. dementia). Almost 60% of females are more prone to dementia than males (Anand and Hanson, 1997) (Figure 3). From the study conducted, 91.6% of individuals are aware that lifestyle modification can be a temporary solution for hypertension. But this finding contradicts to okwuonu CG et al. who reported more than 80% of participants in that study unaware about the role of lifestyle modification of diet to control hypertension, i.e., vegetables, fruits, unsaturated oil can reduce body weight (Okwuonu et al., 2014).

The study conducted shows 63% of participants are aware of the fact that retina is the part of the eye, which is mainly affected due to hypertension. According to surveys conducted among hypertensive patients in China, about 12-15% of individuals suffer from hypertensive retinopathy (Erden and Bicakci, 2012). From the study did, 71.1% of results show a strong relationship between metabolic disorder and hypertension. Other studies report that the prevalence of the metabolic syndrome is higher in hypertensive patients than the counter ones (Mulè, 2014).

International studies show that the increased prevalence of systolic blood pressure (SBP) ranging from 110-115 to 140 mmHg. Thus increase of SBP has its implications on increasing DALYS, disease burden and decreasing the life expectancy of the affected individuals.

DALYS (disability-adjusted life year)=YLD+YLL

YLD - year lived with disability
YLL - year of life lost

CONCLUSIONS

Hypertension is a life-threatening disorder. This study concludes that adequate knowledge among adults. The high levels of undiagnosed hypertension, coupled with low levels of treatment, can result in adverse minor and major complications. Even though awareness is high, health education should be provided to both rural and urban mass. The regional disparity shows not much difference, but the relationship between incidence and awareness among individuals regarding this is in vice versa. As for complications, people have enough knowledge about major complications like stroke, dementia, but awareness is quite less towards minor complications like an aneurism, metabolic syndrome, intracranial atherosclerosis.

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Conflict Of Interest

The authors declare that they have no conflict of interest for this study.

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